

Applic. No.: 10/612,628

Amdt. Dated September 14, 2004

Reply to Office action of June 14, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

Claim 1 (currently amended). A method for locally heating a ~~specific part~~ buried region in a substrate, which comprises the steps of:

providing the substrate;

producing at least one buried region in the substrate with a lower specific resistance than a surrounding region formed by the substrate; and

heating locally the buried region by inducing eddy currents by irradiation with electromagnetic energy.

Claim 2 (original). The method according to claim 1, which further comprises outputting radiation as the electromagnetic energy and the radiation has a wavelength between $1 \cdot 10^{-5}$ m and $1.4 \cdot 10^{-4}$ m.

Claim 3 (currently amended). The method according to claim 1, which further comprises forming the buried region disposed in

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the substrate with a specific resistance between $1 \cdot 10^{-6} \Omega\text{m}$ and $2 \cdot 10^{-4} \Omega\text{m}$.

Claim 4 (original). The method according to claim 2, which further comprises radiating in the radiation at a substantially perpendicular angle of incidence relative to a main surface of the substrate.

Claim 5 (original). The method according to claim 2, which further comprises radiating in the radiation at an angle of incidence other than 90° relative to a main surface of the substrate.

Claim 6 (original). The method according to claim 2, which further comprises radiating in the radiation at a variable angle of incidence relative to a main surface of the substrate.

Claim 7 (original). The method according to claim 6, which further comprises varying the angle of incidence of the radiation during the irradiation.

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Claim 8 (original). The method according to claim 1, which further comprises forming the region disposed in the substrate with a specific resistance between $1 \cdot 10^{-6} \Omega\text{m}$ and $1 \cdot 10^{-5} \Omega\text{m}$.

Claim 9 (original). A chemical vapor deposition method for local deposition, which comprises the steps of:

providing a substrate having at least one region with a lower specific resistance than other areas of the substrate, the substrate and the region having a temperature below a predetermined deposition temperature;

providing at least one precursor gas; and

heating locally the region by inducing eddy currents by irradiation with electromagnetic energy, resulting in the region being heated to a given temperature above the predetermined deposition temperature.

Claim 10 (original). The method according to claim 9, which further comprises forming the region to be heated as a buried plate of a trench capacitor.

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Claim 11 (original). The method according to claim 10, which further comprises during the heating step, heating a bottom region of the buried plate.

Claim 12 (original). The method according to claim 9, which further comprises:

introducing a further precursor gas after the heating step, the substrate and the region have a temperature below a given predetermined deposition temperature of the further precursor gas; and

heating locally again by inducing eddy currents by irradiation with electromagnetic energy, a temperature of the heated region is higher than the given predetermined deposition temperature of the further precursor gas.

Claim 13 (original). The method according to claim 12, which further comprises performing a cooling step between the two heating steps, a temperature of the substrate and the region is lowered below the given predetermined deposition temperature of the further precursor gas by the cooling step.

Claim 14 (original). The method according to claim 9, which further comprises forming the region to be heated as a

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plurality of regions functioning as buried plates adjacently disposed in the substrate, and the electromagnetic energy radiates in radiation at an angle other than 90° relative to a main surface of the substrate, so that the buried plates disposed at an edge facing a source providing the radiation, shield upper regions of other buried plates against the radiation.

Claim 15 (original). The method according to claim 14, which further comprises varying an angle of incidence of the radiation during the irradiation.

Claim 16 (original). The method according to claim 9, which further comprises applying a static magnetic field during the irradiation with radiation.

Claim 17 (original). The method according to claim 16, which further comprises orienting the static magnetic field perpendicular to a main surface of the substrate.

Claim 18 (original). The method according to claim 9, which further comprises outputting radiation as the electromagnetic energy and the radiation has a wavelength between $1 \cdot 10^{-5}$ m and $1.4 \cdot 10^{-4}$ m.

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Claim 19 (original). The method according to claim 18, which further comprises radiating in the radiation at a substantially perpendicular angle of incidence relative to a main surface of the substrate.

Claim 20 (original). The method according to claim 18, which further comprises radiating in the radiation at an angle of incidence other than 90° relative to a main surface of the substrate.

Claim 21 (original). The method according to claim 18, which further comprises radiating in the radiation at a variable angle of incidence relative to a main surface of the substrate.

Claim 22 (original). The method according to claim 21, which further comprises varying the angle of incidence of the radiation during the irradiation.